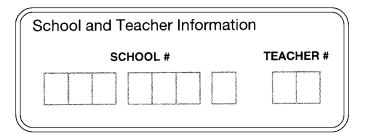
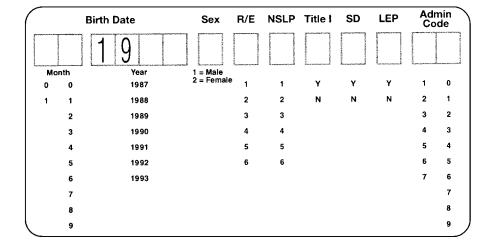
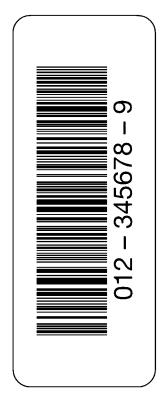


Demonstration Booklet 2000 — Grade 4

Mathematics, Science, and Reading







| DO NOT USE |
|--|
| 90000000000000000000000000000000000000 |

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for equired to complete this information collection is estimated to average 100 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: U.S. Department of Education, Washington, D.C. 20202-4651. If you have comments or concerns regarding the status of your individual submission of this form, write directly to: Information Management and Compliance Division, U.S. Department of Education, 600 Independence Avenue, SW. Washington, D.C. 20202-4651.

A project of the Office of Educational Research and Improvement.

This report is authorized by law (PL.103-382, 20 U.S.C. §9010). While you are not required to respond, your cooperation is needed to make the results of the survey comprehensive, accurate, and timely. The information you provide is being collected for research purposes only and will be kept strictly confidential. OMB No. 1850-0628 • Approval Expires 06/30



DEMONSTRATION BOOKLET GRADE 4

MATHEMATICS, SCIENCE, AND READING



NAEP 2000 ASSESSMENT NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS MATHEMATICS, SCIENCE, AND READING FOURTH GRADE

TABLE OF CONTENTS

| A Message for School Staff Members | 4 |
|---|------------|
| Mathematics | |
| A Description of the Assessment | 5 |
| Mathematics Booklet Directions | 6 |
| Sample Questions | 8 |
| General Background Questionnaire | 13 |
| Mathematics Background Questionnaire | 16 |
| Science | |
| A Description of the Assessment | 20 |
| Science Booklet Directions, I | 21 |
| Science Booklet Directions, II | 23 |
| Sample Questions | 24 |
| Science Background Questionnaire Directions | 30 |
| General Background Questionnaire | 31 |
| Science Background Questionnaire | 34 |
| Reading | |
| A Description of the Assessment | 37 |
| Reading Booklet Directions | 38 |
| Reading Questions | 40 |
| General Background Questionnaire Directions | 43 |
| General Background Questionnaire | 44 |
| Reading Background Questionnaire Directions | 48 |
| Reading Background Questionnaire | 49 |
| Information about National Assessment of Educational Progress | Back Cover |

A MESSAGE FOR SCHOOL STAFF MEMBERS

On behalf of the NAEP project team, I want to thank you and other members of your school system for agreeing to participate in the NAEP assessment. Your participation is essential and valued. NAEP's benchmark data about student achievement and instructional emphases are widely used for staff development, curriculum planning, and research on student performance. Your voluntary assistance enhances a cooperative partnership with school leaders across the country who believe that information about this nation's educational progress is a critical ingredient for public and professional discussion about policy and direction. Your assistance also contributes to our success in measuring what students know and can do.

This demonstration booklet illustrates the kinds of exercises or test questions and tasks used in this assessment of student achievement in mathematics and science. Each student will be asked to complete the background section and the cognitive sections for one subject. The length of the assessment will require about 90 minutes of a student's time.

This booklet is divided into four parts. Part one contains a description of the mathematics assessment, followed by the booklet directions, sample questions, and the background questionnaire that is included in mathematics test booklets. Part two contains the same information for the science assessment, in addition to directions for completing the background questionnaire for science. Part three contains a description of the reading assessment, followed by the booklet directions, sample questions, and the reading background questionnaire.

Students will be asked about their racial and ethnic background, their parents' level of education, the number of educational materials in the home, and the amount of time they spend on homework each day. Questionnaires also address how the subject matter is taught, the materials and resources the students use, and whether the students believe the particular subject matter is useful in their lives and for the future. This information is confidential, as student names never leave the school.

The samples of mathematics and science questions are representative of those in the assessment. Although the actual questions in the assessment must be safeguarded to maintain the integrity of the assessment and resulting data, the sample items are intended to convey the kinds of questions and formats that are part of the assessment.

The fourth part of the booklet is located on the back cover and contains information about the program's purpose and how to obtain access to NAEP questions for further review.

Again, the project team appreciates your willingness to allow NAEP to conduct the assessment at your institution.

Peggy G. Carr, Associate Commissioner Education Assessment National Center for Education Statistics

THE MATHEMATICS ASSESSMENT

The NAEP mathematics assessment is based upon the National Council of Teachers of Mathematics (NCTM) *Standards*. The specifications focus on five broad content strands of mathematical content: Number Sense, Properties, and Operations; Measurement; Geometry and Spatial Sense; Data Analysis, Statistics, and Probability; and Algebra and Functions. Items are classified according to the major area(s) they address, including both mathematical abilities and mathematical power. Mathematical power consists of math abilities (conceptual understanding, procedural knowledge, and problem solving) within a broader context of reasoning, connections, and communications.

The 2000 NAEP assessment embraces a comprehensive view of mathematics and is based on a model that provides a more holistic and integrated view of school mathematics, requiring students to form networks of connections among mathematical ideas and skills.

The exercise types include multiple-choice items, grid-in items, short-answer open-ended questions, and extended open-ended tasks. These extended exercises allow students to communicate their ideas and demonstrate the reasoning they used to solve problems.

MATHEMATICS BOOKLET DIRECTIONS

This assessment uses many different booklets. Each booklet has different questions. Do not worry if the person next to you is working on questions that do not look like those you are working on.

Read each question carefully and answer it as well as you can. Do not spend too much time on any one question.

Each booklet has several parts. You will be helped with the first part and will complete the other parts on your own. You will be told when to begin each part. Stop when you see this sign.



If you finish a part early, you may check your work on that part only. Do not begin another part until you are told to continue.

Now read sample 1. The choices for some questions will be written across the page as shown. Fill in the oval for the best answer.

| SAMPLE 1 | Almost | Once or | Once or | Never or |
|---|--------|----------|---------|------------|
| | every | twice a | twice a | hardly |
| | day | week | month | ever |
| 1. How often do you watch movies on TV? | (A) | B | © | (b) |

There is no correct answer to this question. Your answer will tell us how often you watch movies on TV.

Now read sample 2 and write your answer on the blank line below.

| SAMPLE 2 | |
|---|--|
| 2. What kind of food do you like best? (Write in.) | |

You should answer this question by writing the kind of food you like best. Sometimes there will be more than one line on which to write your answer. Use as many lines as you need for your answer.

AC-1BM

MATHEMATICS, SCIENCE, AND READING

Now read sample 3. Fill in the oval beside the choice that you think is correct.

SAMPLE 3

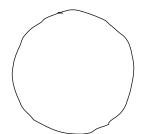
- 2. How many minutes are there in 1 hour?
 - A) 12
 - ® 24
 - © 30
 - **1** 60

You should have filled in the oval for "60" because there are 60 minutes in an hour.

Now read sample 4. For some of the questions you may need to write or draw the answer. You can see how this is done in sample 4.

SAMPLE 4

4. Draw a circle in the space below.



REMEMBER:

Read each question CAREFULLY.

Fill in only ONE OVAL for each question or write your answer in the space provided.

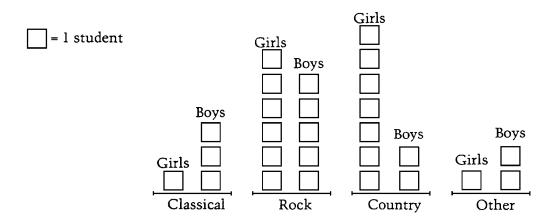
If you change your answer, ERASE your first answer COMPLETELY.

CHECK OVER your work if you finish a section early.



SAMPLE QUESTIONS

1. Each boy and girl in the class voted for his or her favorite kind of music. Here are the results.



Which kind of music did most students in the class prefer?

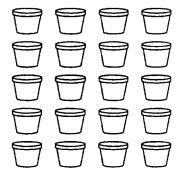
- Classical
- B Rock
- © Country
- ① Other AP000554

MATHEMATICS, SCIENCE, AND READING

| 2. | Brett needs to cut a piece of string into four equal pieces without using a ruler or other measuring instrument. | |
|----|--|----------|
| | Write directions to tell Brett how to do this. | |
| | | |
| | | |
| | | |
| | | EL001540 |

3. Sam can purchase his lunch at school. Each day he wants to have juice that costs 50¢, a sandwich that costs 90¢, and fruit that costs 35¢. His mother has only \$1.00 bills. What is the least number of \$1.00 bills that his mother should give him so he will have enough money to buy lunch for 5 days?

AP000522

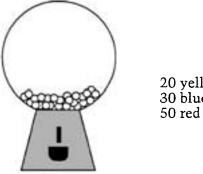


- 4. The picture shows the flowerpots in which Kevin will plant flower seeds. He needs 3 seeds for each pot. Which of the following number sentences shows how many seeds Kevin will need for all of the pots?

 - \bigcirc $(5+4)\times 3=$
 - \bigcirc 5 + 4 + 3 = \square

M000502

Think carefully about the following question. Write a complete answer. You may use drawings, words, and numbers to explain your answer. Be sure to show all of your work.



20 yellow 30 blue

5. The gum ball machine has 100 gum balls; 20 are yellow, 30 are blue, and 50 are red. The gum balls are well mixed inside the machine.

Jenny gets 10 gum balls from this machine.

What is your best prediction of the number that will be red?

| Answer: gum balls | |
|------------------------------------|--|
| Explain why you chose this number. | |
| | |
| | |
| | |
| | |
| | |

AP000528

GENERAL BACKGROUND QUESTIONNAIRE

This section has 17 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

TB003101

- 1. Which best describes you?
 - White (not Hispanic)
 - Black (not Hispanic)
 - Mispanic ("Hispanic" means someone who is from a Mexican, Mexican American, Chicano, Puerto Rican, Cuban, or other Spanish or Hispanic background.)
 - Asian or Pacific Islander ("Asian or Pacific Islander" means someone who is from a Chinese, Japanese, Korean, Filipino, Vietnamese, or other Asian or Pacific Island background.)
 - American Indian or Alaskan Native ("American Indian or Alaskan Native" means someone who is from one of the American Indian tribes, or one of the original people of Alaska.)
 - © Other (specify)_____

- 2. If you are Hispanic, what is your Hispanic background?
 - I am not Hispanic.
 - Mexican, Mexican American, or Chicano
 - © Puerto Rican
 - ⊕ Cuban
 - © Other Spanish or Hispanic background

LC000006

- 3. How long have you lived in the United States?
 - All my life
 - More than 5 years but not all my life
 - \odot 3–5 years
 - Less than 3 years

FOURTH GRADE

| | n do the people in your home | | | your family get any magazines |
|-------------------------|----------------------------------|----------|---|--|
| speak a la Neve | nguage other than English? er | reg | | arly? Ves |
| ® Some | etimes | B | N | No |
| © Alwa | nys | © | I | don't know. |
| | ТВ000901 | | | TB001801 |
| 5. Does your regularly? | r family get a newspaper | | | much television do you usually n each day? |
| Yes | | A | N | None |
| ® No | | B | 1 | hour or less |
| © I don | 't know. | 0 | 2 | hours |
| | | (| 3 | 3 hours |
| 6. Is there ar | n encyclopedia in your home? | Œ | 4 | hours |
| A Yes | | Ē | 5 | hours |
| ® No | | © | 6 | hours or more |
| © I don | 't know. | | | |
| | TB000904 | | | much time do you usually spend on work each day? |
| 7. Are there home? | more than 25 books in your | A | | don't usually have homework |
| Yes | | _ | | lssigned. |
| ® No | | B | | have homework but I don't isually do it. |
| © I don | 't know. | 0 | 1 | /2 hour or less |
| | | (| 1 | hour |
| | | Œ | N | More than 1 hour |

MATHEMATICS, SCIENCE, AND READING

| | TB001101 | | HE000717 |
|------------|--|----------|--|
| you | out how many pages a day do have to read in school and for nework? | ha | w often do you discuss things you re studied in school with someone at ne? |
| A | More than 20 | A | Almost every day |
| B | 16–20 | B | Once or twice a week |
| © | 11–15 | 0 | Once or twice a month |
| (b) | 6–10 | (| Never or hardly ever |
| Œ | 5 or fewer | | |
| 12. Hov | w many days of school did you miss | | w often do you use a computer at me for schoolwork? |
| | month? | A | Almost every day |
| A | None | B | Once or twice a week |
| B | 1 or 2 days | 0 | Once or twice a month |
| © | 3 or 4 days | (| Never or hardly ever |
| | 5 to 10 days | Œ | There is no computer at home. |
| Œ | More than 10 days | | |
| 13 Wit | hin the past two years, how many | 16. Do | you use the Internet at home? Yes |
| tim | es have you changed schools because changed where you lived? | B | No |
| A | None | | HF002541 |
| B | 1 | 17. Ho | w safe do you feel at school? |
| 0 | 2 | A | Very safe |
| (| 3 or more | B | Somewhat safe |
| | | 0 | Somewhat unsafe |
| | | 0 | Very unsafe |
| | | | |
| | | | |



MATHEMATICS BACKGROUND QUESTIONNAIRE

This section has 6 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

UH000080

1. When you do mathematics in school, how often do you do each of the following? Fill in only **one** oval on each line.

| Almost Every Day | Once or Twice a Week | Once or Twice a Month | Never or Hardly Ever | |
|------------------------|----------------------------|--|--|--|
| A | B | | • | TM810101 |
| A | B | | • | HE002478 |
| A | B | © | (| TM810112 |
| A | B | © | (| TM810109 |
| A | B | © | (D) | QK070695 |
| A | B | © | (D) | TM810106 |
| A | B | © | (D) | TM810105 |
| | Every Day A A A | Every Day Week A B A B A B A B A B A B | Every Day Week Month A B C B C B C B C B C B C B C B | Every Day Twice a Week Twice a Month Hardly Ever A B C D A B C D A B C D A B C D A B C D |

HE000378

2. Do you have a calculator that you can use to do mathematics schoolwork?

- Yes
- B No

MATHEMATICS, SCIENCE, AND READING

LC000518

3. For mathematics, how often do you use a calculator for each of the following activities? Fill in **one** oval on each line.

| | Almost Every Day | Once or Twice a Week | Once or Twice a Month | Never or Hardly Ever | |
|---------------------|------------------------|----------------------------|-----------------------------|----------------------------|----------|
| a. Classwork | A | B | © | (| LC000519 |
| b. Homework | A | B | © | (D) | LC000520 |
| c. Tests or quizzes | A | B | © | (D) | LC000521 |

TM810601 HE000705

- 4. About how much time do you usually spend each day on mathematics homework?
 - None
 - **15 minutes**
 - © 30 minutes
 - 45 minutes
 - One hour
 - More than one hour

- 5. Do you get extra help in mathematics from a special teacher, teacher aide, or tutor?
 - Yes
 - ® No

FOURTH GRADE

HE000648

6. How much do you agree with each of the following statements? Fill in **one** oval on each line.

| | Agree | Undecided | Disagree | |
|--|------------|-----------|----------|----------|
| a. I like mathematics. | A | B | © | TM811101 |
| b. I am good at mathematics. | A | B | © | TM811103 |
| c. I understand most of what goes on in mathematics class. | A | B | © | HE000651 |
| d. There is only one correct way to solve a mathematics problem. | A | B | © | HE002482 |
| e. Learning mathematics is mostly memorizing facts. | A | B | © | HE000654 |
| f. Mathematics is useful for solving everyday problems. | (A) | B | © | TM811105 |
| g. All students can do well in mathematics if they try. | A | B | © | QK070696 |

MATHEMATICS, SCIENCE, AND READING

This section has 3 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

OK070694 LD001718

- 1. How hard did you try on this test?
 - Much harder than on other mathematics tests
 - B Harder than on other mathematics tests
 - About as hard as on other mathematics tests
 - Not as hard as on other mathematics tests

- 2. How important was it to you to do well on this mathematics test?
 - Very important
 - Important
 - © Somewhat important
 - Not very important
- 3. How strongly do you agree with the following statements? Fill in only **one** oval on each line.

| | Strongly Agree | Agree | Disagree | Strongly Disagree | |
|--|-------------------|-------|----------|----------------------|----------|
| a. Doing well in school is a goal of most students in my class. | A | B | © | D | ID110146 |
| b. To keep up with my friends, I have to work hard at my schoolwork. | A | B | © | • | ID110147 |



THE SCIENCE ASSESSMENT

The NAEP science assessment is organized according to two major dimensions: the fields of science (Earth, Physical, and Life) and knowing and doing science (Conceptual Understanding, Scientific Investigation, and Practical Reasoning). In addition, embedded within both dimensions are three themes of science (Models, Systems, and Patterns of Change) and the Nature of Science.

The 2000 NAEP assessment in science contains multiple-choice questions as well as short and extended constructed-response exercises. These questions explore students' abilities to explain, integrate, apply, reason, plan, design, evaluate, and communicate. The constructed-response questions make up approximately 80 percent of the assessment time.

The assessment is made up of discrete questions; clusters of questions that test in-depth knowledge of a number of content areas including those contained within systems, models, and patterns of change; and performance-based tasks that probe students' abilities to make observations, perform investigations, evaluate experimental results, and apply problem-solving skills.

Each student who participates in the assessment will take two timed blocks of questions. In addition, half the sampled students will take a third timed block of questions consisting of a set of hands-on problem-solving tasks.

Distribution of NAEP Science Framework Assessment Time Across Field of Science

| | Earth Science includes astronomy, geology, meteorology, and oceanography | Physical Science includes physics and chemistry | Life Science includes biology, health, and nutrition | |
|----------|--|--|--|--|
| Grade 4 | 33% | 33% | 33% | |
| Grade 8 | 30% | 30% | 40% | |
| Grade 12 | 33% | 33% | 33% | |

SCIENCE BOOKLET DIRECTIONS, I

Your book has either 4 or 5 sections. Sections 1 and 2 contain science questions; sections 3 and 4 ask questions about you and your classes. For those of you who have 5 sections, section 5 contains a hands-on science task. The administrator will tell you when to begin each section.

Do not go past the STOP sign at the end of each section until you are told to do so.

If you finish a section before time is called, you may go back and check your work on that section only. Use your time carefully and answer as many questions as you can in each section.

In each of sections 1 and 2, you will have 20 minutes to answer a series of questions about science.

You will be asked to respond to several different types of questions. Some of the questions will require you to choose the best answer and fill in the oval for that answer in your booklet. On questions like this, be sure to mark your answers clearly and darken the oval completely. If you make a mistake or want to change your answer, be sure to erase any unwanted marks. Here is an example of a question that requires you to fill in an oval.

Example 1

James found that certain objects were attracted to a magnet. Which of these objects clung to his magnet?

- Rubber band
- Wooden toothpick
- © Plastic cup
- Steel paper clip

For some questions, you will be asked to write short answers on the blank lines provided in your booklet. Here is an example of a question that requires you to provide a short answer.

Example 2

Describe one important difference between plants and animals.

Most plants make their own food, while animals lat plants and other animals for food.

Also, you will be asked to answer some questions by writing longer, more detailed responses. For example, here is a question that requires you to provide a longer answer.

Example 3

Describe three things that animals do to survive in areas that have cold winters.

Some animals stone a lot of foct so that they can go into a deep sleep all winter Some animals glow a thick coat of first to keep them warm. Some birds and butterflus fly away from a cold area and spend the winter in a place that is warm and has a lot of food.

When you are asked to write your response be sure that your handwriting is clear. Think carefully about each question and make your answers as complete as possible, using as many lines as you need.

Finally, in some questions you may be asked to draw a diagram or fill in a table.



SCIENCE BOOKLET DIRECTIONS, II

You will now work on section 5 in which you will be given a set of materials to do a science activity. You will have 20 minutes to do this activity and answer questions about it. The administrator will tell you when to begin the section.



SAMPLE QUESTIONS

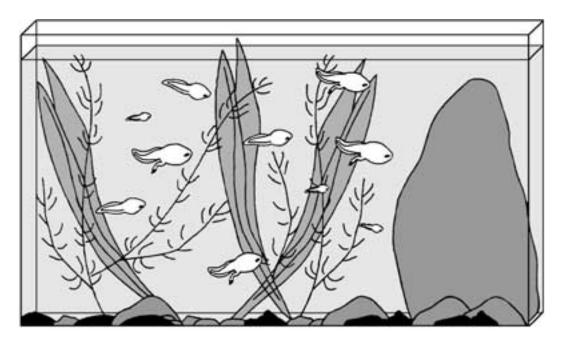
One day Ms. Brown brought a bucket of pond water to her fourth-grade class. In the bucket were several clumps of frogs' eggs—and there were many eggs in each clump, as you can see in Picture 1. "We'll put these eggs and the pond water into the fish tank on the table in the back of the room," said Ms. Brown, "and soon these eggs will hatch into tadpoles. Then we can watch as the tadpoles grow and change into frogs."



Picture 1

Today, two weeks later, all of the eggs that are going to hatch have hatched and the fish tank is full of tadpoles. The last eggs hatched yesterday. As you can see in Picture 2, all the tadpoles do not look alike.

HE001408



Picture 2

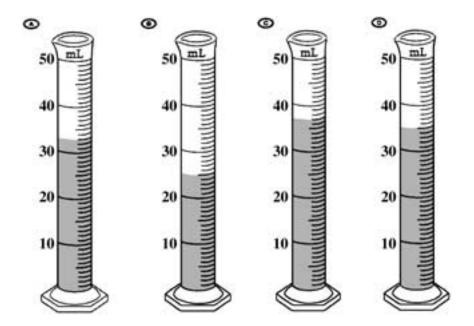
1. Draw a circle around each of the tadpoles that hatched yesterday.

HE001409

| 2. | Tell why all the tadpoles in the fish tank do not look alike. | HE001410 |
|----|---|----------|
| | | |
| | | |
| | | |
| | | |

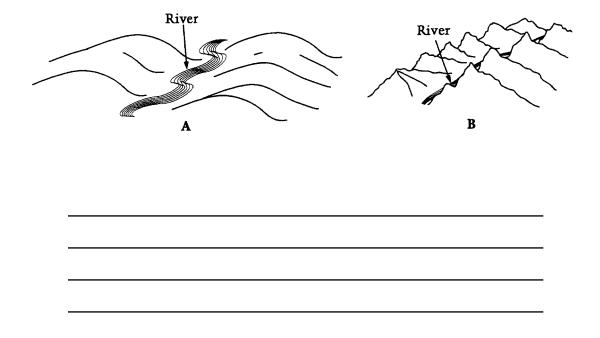
3. The pictures below show containers with water in them. Which container has 35 milliliters (mL) of water in it?

HE001475



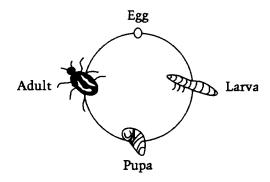
4. The pictures below show the same river and mountains, but one picture shows how they looked millions of years ago, and the other picture shows how they look now. Circle the letter under the picture that shows how the river and mountains look <u>now</u>. Explain how you can tell this.

HE001442



- 5. We can see the Moon from Earth because the Moon
 - is so hot that it glows like the Sun
 - reflects light from the Sun
 - has many volcanoes that give off a glowing gas
 - is made of rocks that give off their own light

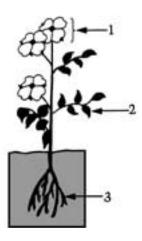
HE001431



- 6. The life cycle of a mealworm is pictured above. What would happen if this larva were eaten by a bird?
 - The larva would die before it could reproduce.
 - The bird would become sick.
 - © The mealworm species would be wiped out.
 - The mealworm eggs would be spread by the bird.

HE001942

7. Name the parts of the plant below that are labeled 1, 2, and 3. Explain the function of each part.



| Name of Part | e of Part |
|--------------|-----------|
|--------------|-----------|

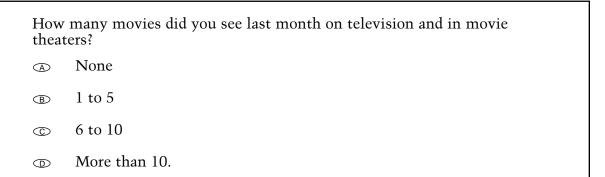
Function

| 1. | |
|----|--|
| | |
| 2. | |
| | |
| 2 | |

| 8. | Many things are made of metal, such as pots, pans, tools, and wire. Give two reasons why metals are used to make many different | | | | |
|----|--|----------|--|--|--|
| | things. | HE001976 | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCIENCE BACKGROUND QUESTIONNAIRE DIRECTIONS

Sections 3 and 4 consist of background questions. In Section 3, you will answer questions about yourself and your education. Read each question carefully and fill in the oval beside the response that is true for you. Please read and answer the following sample question.



You should have filled in the oval beside the answer that is true for you.

In section 4 you will answer questions about your science instruction. Some questions are like the following example. Please read these two questions and fill in one oval beneath your answer to each question.

| | Often | Sometimes | Never |
|--|-------|------------|-------|
| How often do you read about science for fun? | A | $^{\circ}$ | © |
| How often do you work on science projects in school? | A | B | © |

For each of these questions, you should have filled in the oval beneath the answer that is true for you.



GENERAL BACKGROUND QUESTIONNAIRE

This section has 17 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

TB003001 TB003101

- 1. Which best describes you?
 - White (not Hispanic)
 - Black (not Hispanic)
 - Hispanic ("Hispanic" means someone who is from a Mexican, Mexican American, Chicano, Puerto Rican, Cuban, or other Spanish or Hispanic background.)
 - Asian or Pacific Islander ("Asian or Pacific Islander" means someone who is from a Chinese, Japanese, Korean, Filipino, Vietnamese, or other Asian or Pacific Island background.)
 - American Indian or Alaskan
 Native ("American Indian or
 Alaskan Native" means someone
 who is from one of the American
 Indian tribes, or one of the
 original people of Alaska.)
 - Other (specify)______

- 2. If you are Hispanic, what is your Hispanic background?
 - A I am not Hispanic.
 - Mexican, Mexican American, or Chicano
 - © Puerto Rican
 - © Cuban
 - © Other Spanish or Hispanic background

LC000006

- 3. How long have you lived in the United States?
 - All my life
 - More than 5 years but not all my life
 - \odot 3–5 years
 - Less than 3 years

FOURTH GRADE

| | TB003201 | | | TB000905 |
|----------|--|-----|------------|---|
| | w often do the people in your home ak a language other than English? | 8. | | es your family get any magazines nlarly? |
| A | Never | | A | Yes |
| B | Sometimes | | $^{\odot}$ | No |
| 0 | Always | | 0 | I don't know. |
| | HE002534 | | | TB001801 |
| 5. Abo | out how many books are in your ne? | 9. | do y | a school day, about how many hours you usually watch TV or videotapes side of school hours? |
| A | None | | outs | |
| | 1–10 (Few) | | A | None |
| B | | | B | 1 hour or less |
| 0 | 11–25 (Enough to fill one shelf) | | 0 | 2 hours |
| (| 26–100 (Enough to fill one bookcase) | | (| 3 hours |
| Œ | More than 100 (Enough to fill several bookcases) | | Œ | 4 hours |
| | 5 5.6141 256 1.64 5 5 6) | | Ð | 5 hours |
| | TB000901 | | © | 6 hours or more |
| | es your family get a newspaper ularly? | | | |
| A | Yes | 10. | Hov | v much time do you usually spend on |
| B | No | 10. | | nework each day? |
| 0 | I don't know. | | A | I don't usually have homework assigned. |
| | TB000903 | | B | I have homework but I don't usually do it. |
| 7. Is tl | here an encyclopedia in your home? | | | 1/2 hour or less |
| A | Yes | | 0 | |
| B | No | | | 1 hour |
| © | I don't know. | | (E) | More than 1 hour |

MATHEMATICS, SCIENCE, AND READING

| 1170005-10 |
|--|
| 14. How often do you discuss things you have studied in school with someone at home? |
| Almost every day |
| ® Once or twice a week |
| _ |
| © Once or twice a month |
| Never or hardly ever |
| |
| 15. How often do you use a computer at |
| home for schoolwork? |
| Almost every day |
| ® Once or twice a week |
| © Once or twice a month |
| Never or hardly ever |
| There is no computer at home. |
| There is no compacer at nome. |
| ID110020 |
| 16. Do you use the Internet at home? |
| A Yes |
| (B) No |
| |
| 17. How safe do you feel at school? A Very safe |
| Somewhat safe |
| © Somewhat unsafe |
| • Very unsafe |
| |



① 3 or more

SCIENCE BACKGROUND QUESTIONNAIRE

This section has 10 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

HE002996

| 1. How much do you agree with the following statements? Fill in one oval on each line. | | | | |
|---|--------------|----------------|--------------|--------------------|
| | Agree | Not Sure | Disagree | |
| a. I like science. | A | lacksquare | © | HE002997 |
| b. I am good at science. | A | lacksquare | © | HE002998 |
| c. Learning science is mostly memorizing. | A | lacksquare | © | HE002999 |
| d. All students can do well in science if they | try. 🖎 | lacksquare | © | QK070708 |
| e. Science is boring. | A | lack | © | HE003003 |
| | | | | |
| 2. Have you ever done hands-on activities or profill in all ovals that apply. | jects in sch | nool with any | of the follo | he003005 owing? |
| a. Living things (for example, plants, animals | , bacteria) | | A | HE003006 |
| b. Electricity (for example, batteries and flash | light bulbs |) | A | HE003007 |
| c. Chemicals (for example, mixing or dissolving | ng sugar o | salt in water) | A | HE003008 |
| d. Rocks or minerals (for example, identifying | g types) | | A | HE003009 |
| e. Magnifying glass or microscope (for looking | g at small t | things) | A | HE003010 |
| f. Thermometer or barometer (for making me | easurement | cs) | A | HE003011 |
| g. Simple machines (for example, pulleys and | levers) | | A | HE003012 |
| h. None of the above | | | A | HE003013 |

MATHEMATICS, SCIENCE, AND READING

LC000144

QK070709

- 3. About how often do you study science in school?
 - Every day
 - ® 3 or 4 times a week
 - © 1 or 2 times a week
 - Less than once a week
 - Never

LC00014

- 4. Do you ever do science projects in school that take a week or more?
 - Yes
 - B No

ID110089

- 5. When you do science experiments in school, do you use a lab book or notebook for keeping your records and comments?
 - Yes
 - B No
 - □ I don't know

- 6. How hard was this test compared to most other science tests you have taken this year in school?
 - Much harder than other science tests
 - B Harder than other science tests
 - About as hard as other science tests
 - Easier than other science tests

QK070710

- 7. How hard did you try on this test compared to how hard you tried on most other science tests you have taken this year in school?
 - Much harder than on other science tests
 - B Harder than on other science tests
 - About as hard as on other science tests
 - Not as hard as on other science tests

| QK070711 | QK070712 |
|---|---|
| 8. How important was it to you to do well on this science test? | 9. This year in school, how often have you been asked to write long answers |
| Very important | to questions on tests or assignments for science? |
| Important | |
| © Somewhat important | Once or twice a month |
| Not very important | © Once or twice this year |
| | Never |

ID110144

10. How strongly do you agree with the following statements? Fill in only **one** oval on each line.

| | Strongly | | | Strongly | |
|---|----------|-------|----------|------------|----------|
| | Agree | Agree | Disagree | Disagree | |
| a. Doing well in school is a goal of mostudents in my class. | ost 🛆 | B | © | • | ID110146 |
| b. To keep up with my friends, I have work hard at my schoolwork. | to 🛦 | B | © | (D) | ID110147 |



THE READING ASSESSMENT

The NAEP reading assessment measures three purposes for reading: for *literary experience*, *to gain information*, and *to perform a task*. The assessment is composed of reading materials selected from publications and other resources typically available to students in and out of school.

Across the three purposes for reading, students are asked to demonstrate their understanding by responding to comprehension questions that reflect four different types of reading processes. These processes represent the changing stances that a reader takes toward a text. *Initial understanding* questions ask students to consider the text as a whole. *Developing an interpretation* questions ask students to discern connections and relationships within the text. *Personal reflection and response* questions ask students to interpret the text in relation to their prior knowledge. *Critical stance* questions ask students to consider how the text is written.

The NAEP reading assessment contains multiple-choice questions, as well as short and extended constructed-response questions. Students spend approximately 60 to 70 percent of their assessment time providing written answers to the constructed-response questions.

In 2000, the reading assessment will be administered only at the fourth-grade level. As reading to perform a task is not assessed at fourth grade, students will be asked to demonstrate their understanding with literary and informative texts only.

Each student who participates in the assessment will receive one test booklet that will contain two 25-minute sections made up of reading materials and questions.

READING BOOKLET DIRECTIONS

In each of the next two sections, you will have 25 minutes to read a story or article and answer questions about it. You should think carefully about your answers, and you should use the entire 25 minutes to complete each section.

You will be asked to respond to three different types of questions. Some of the questions will require you to choose the best answer and fill in the oval for that answer in your booklet.

For other questions, you will be asked to write short answers on the blank lines provided in your booklet. Here is an example of a question that requires you to provide a short answer.

Example 1

What would happen to you if you tried to go inside a black hole?

I think that is you tired to go inside a black hale your would get crushed by the force of gravity and die.

Also, you will be asked to answer other questions by writing longer, more detailed responses on a full page of blank lines. For example, here is a question that requires you to provide a longer answer.

Example 2

Someone you know has decided to go on a journey into a black hole. What would you tell him or her to expect?

into the black hole or they would probably never get out alive. Soing into a black hole would made man that you would never see anyone on Earth again.

The journey would be very changerous. Your might get pulled apait by the pressure.

When you are asked to write your response be sure that your handwriting is clear. Think carefully about each question and make your answers as complete as possible, using as many lines as you need.

You may go back to the story or article when answering any of the questions. If you finish before time is called, be sure to read your work again and change anything that you think will make your answers better.



READING QUESTIONS

HUNGRY SPIDER AND THE TURTLE

by Harold Courlander and George Herzog

Spider was a hungry one, he always wanted to eat. Everybody in Ashanti knew about his appetite. He was greedy, too, and always wanted more than his share of things. So people steered clear of Spider.

But one day a stranger came to Spider's habitation out in the back country. His name was Turtle. Turtle was a long way from his home. He had been walking all day in the hot sun, and he was tired and hungry. So Spider had to invite Turtle into his house and offer him something to eat. He hated to do it, but if he didn't extend hospitality to a tired traveler it would get around the countryside and people would soon be talking about Spider behind his back.

So he said to Turtle:

"There is water at the spring for you to wash your feet in. Follow the trail and you'll get there. I'll get the dinner ready."

Turtle turned and waddled down to the spring with a gourd bowl as fast as he could. He dipped some water from the spring and carefully washed his feet in it. Then he waddled back up the trail to the house. But the trail was dusty. By the time Turtle got back to the house his feet were covered with dirt again.

Spider had the food all set out. It was steaming, and the smell of it made Turtle's mouth water. He hadn't eaten since sunrise. Spider looked disapprovingly at Turtle's feet.

"Your feet are awfully dirty," he said. "Don't you think you ought to wash them before you start to eat?"

Turtle looked at his feet. He was ashamed, they were so dirty. So he turned around and waddled as fast as he could down to the spring again. He dipped some water out of the spring with the gourd bowl and carefully washed himself. Then he scurried as fast as he could back to the house. But it takes a turtle a while to get anywhere. When he came into the house Spider was already eating.

"Excellent meal, isn't it?" Spider said. He looked a Turtle's feet with disapproval. "Hm, aren't you going to wash yourself?"

Turtle looked down at his feet. In his hurry to get back he had stirred up a lot of dust, and his feet were covered with it again.

"I washed them," he said. "I washed them twice. It's your dusty trail that does it."

"Oh," Spider said, "so you are abusing my house now!" He took a big mouthful of food and chewed it up, looking very hurt.

"No," Turtle said, sniffing the food, "I was just explaining."

"Well, run along and wash up so we can get on with the eating," Spider said.

Turtle looked. The food was already half gone and Spider was eating as fast as he could. Turtle spun around and hurried down to the spring. He dipped some water in the gourd bowl and splashed it over his feet. Then he scrambled back to the house. This time he didn't go on the trail, though, but on the grass and through the bushes. It took him a little longer, but he didn't get dust all over his feet. When he got to the house he found Spider licking his lips.

"Ah, what a fine meal we had!" Spider said.

Turtle looked in the dish. Everything was gone. Even the smell was gone. Turtle was very hungry. But he said nothing. He smiled.

"Yes, it was very good," he said. "You are certainly good to travelers in your village. If you are ever in my country you may be assured of a welcome."

"It's nothing," Spider said. "Nothing at all."

Turtle went away. He didn't tell other people about the affair at Spider's house. He was very quiet about his experience there.

But one day many months later Spider was a long distance from home and he found himself in Turtle's country. He found Turtle on the shore of the lake getting a sunbath.

"Ah, friend Spider, you are far from your village," Turtle said. "Will you have something to eat with me?"

"Yes, that is the way it is when a person is far from home—generosity merits generosity," Spider said hungrily.

"Wait here on the shore and I'll go below and prepare the food," Turtle said. He slipped into the water and went down to the bottom of the lake. When he got there he set out the food to eat. Then he came to the top of the water and said to Spider, who was sitting impatiently on the shore, "All right, everything is ready. Let's go down and eat." He put his head under water and swam down.

Spider was famished. He jumped into the water to follow Turtle. But Spider was very light. He floated. He splashed and splashed, kicked and kicked, but he stayed right there on top of the water. For a long time he tried to get down where Turtle was eating, but nothing happened.

After a while Turtle came up, licking his lips.

"What's the matter, aren't you hungry?" he said. "The food is very good. Better hurry." And he went down again.

Spider made one more desperate try, but he just floated. Then he had an idea. He went back to the shore, picked up pebbles and put them in the pockets of his jacket. He put so many pebbles in his pockets that he became very heavy. He was so heavy he could hardly walk. Then he jumped into the water again, and this time he sank to the bottom, where Turtle was eating. The food was half gone. Spider was very hungry. He was just reaching for the food when Turtle said politely:

"Excuse me, my friend. In my country we never eat with our jackets on. Take off your jacket so that we can get down to business."

Turtle took a great mouthful of food and started chewing. In a few minutes there wouldn't be anything left. Spider was aching all over with hunger. Turtle took another mouthful. So Spider wriggled out of his coat and grabbed at the food. But without the pebbles he was so light again that he popped right up to the top of the water.

People always say that one good meal deserves another.

WO000035

Harold Courlander: "Hungry Spider and the Turtle"; from *The Cow-Tail Switch & Other West African Stories*. Copyright © 1987 by Henry Holt and Company, Inc. Reprinted by permission of the publisher.

| 1. | Why did the Spider invite the Turtle to share his food? |
|----|---|
| | To amuse himself |
| | (B) To be kind and helpful |
| | © To have company at dinner |
| | ① To appear generous |
| 2. | Which best describes Spider's character? |
| | Patient |
| | Friendly |
| | © Selfish |
| | ① Angry |
| | |
| 3. | What do Turtle's actions at Spider's house tell you about Turtle? |
| | |
| | |
| | |
| | |
| | |
| 4. | Who do you think would make a better friend, Spider or Turtle? Explain why. |
| | |
| | |
| | |
| | |
| | |

GENERAL BACKGROUND QUESTIONNAIRE DIRECTIONS

In this booklet there are questions and tasks that you will be working on for the next hour. Because there are many different booklets, the students around you may be working on booklets that do not look the same as yours.

Each booklet has several sections. We will read the first section together. In this section, you will be asked questions about yourself and your education. To answer these questions, fill in the oval beside the answer that is true for you. For example, fill in the oval beside your answer to this question:

How many movies did you see last month on television and in movie theaters?

- A None
- 1 to 5
- © 6 to 10
- More than 10

You should have filled in the oval beside the answer that best tells how many movies you saw last month on television and in movie theaters. On questions like this, be sure to make your answer mark clear and dark in the oval. If you make a mistake or want to change your answer, be sure to completely erase any unwanted marks.

You will be told when it is time to begin and end each section.

Do not go past the



sign at the end of each section until you are told to do so.

If you finish a section before time is called, go back and check your work on that section only. Use your time carefully. Do as much as you can in each section.



GENERAL BACKGROUND QUESTIONNAIRE

This section has 21 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

ID100413 TB003101 1. Which best describes you? 2. If you are Hispanic, what is your Hispanic background? White (not Hispanic) I am not Hispanic. Black (not Hispanic) Mexican, Mexican American, or © Hispanic ("Hispanic" means Chicano someone who is Mexican, Mexican American, Chicano, Puerto Rican Puerto Rican, Cuban, or from some other Spanish or Hispanic Cuban background.) Other Spanish or Hispanic Asian or Pacific Islander ("Asian background or Pacific Islander" means someone who is Chinese. Japanese, Korean, Filipino, LC000006 Vietnamese, Asian American, 3. How long have you lived in the United or from some other Asian or States? Pacific Island background.) More than 5 years American Indian or Alaskan Native ("American Indian or 3–5 years Alaskan Native" means someone who is from one of the © Less than 3 years American Indian tribes, or one of the original people of Alaska.) TB003201 © Other (what?) Write your answer 4. How often do the people in your home on the line. speak a language other than English? Never Sometimes Always

| | | ID100314 | | | | ID100318 |
|----|------------|---|----|------------|---|-----------------|
| 5. | scho | your mother graduate from high ool? ("Mother" can be a mother, omother, or female guardian.) | 9 | after | your father have some education high school? ("Father" can be a er, stepfather, or male guardian. | 1 |
| | (A) | Yes | | A | Yes | |
| | $^{\odot}$ | No | | B | No | |
| | 0 | I don't know. | | 0 | I don't know. | |
| | | ID100315 | | | | ID100319 |
| 6. | after | your mother have some education r high school? ("Mother" can be a her, stepmother, or female guardian.) | 10 | ("Fa | your father graduate from colle ther" can be a father, stepfather, e guardian.) | |
| | (A) | Yes | | (A) | Yes | |
| | B | No | | B | No | |
| | 0 | I don't know. | | 0 | I don't know. | |
| | | ID100316 | | | | TB000901 |
| 7. | ("M | your mother graduate from college? other" can be a mother, stepmother, emale guardian.) | 11 | | s your family get a newspaper llarly? | |
| | | Yes | | A | Yes | |
| | | No | | lack | No | |
| | B | | | 0 | I don't know. | |
| | 0 | I don't know. | | | | |
| | | ID100317 | 12 | . Is th | nere an encyclopedia in your ho | твооо903 me? |
| 8. | | your father graduate from high ool? ("Father" can be a father, | | A | Yes | |
| | | father, or male guardian.) | | B | No | |
| | A | Yes | | (C) | I don't know. | |
| | $^{\odot}$ | No | | v | | |
| | 0 | I don't know. | | | | |

| | TB000904 | | | TB006601 |
|------------|--|-------|----------|---|
| Are hom | there more than 25 books in your ne? | | | v much time do you usually spend on nework each day? |
| | Yes | Q | D | I don't usually have homework assigned. |
| B (C) | No I don't know. | Œ | 3) | I have homework but I don't usually do it. |
| | | Q | D | 1/2 hour or less |
| | s your family get any magazines llarly? | Q | D | 1 hour |
| | Yes | Œ | Ð | More than 1 hour |
| | No | | | |
| B (C) | I don't know. | h | | out how many pages a day do you e to read in school and for home-k? |
| | TB001801 | Q | Œ | More than 20 |
| | v much television do you usually ch each day? | Œ | 3) | 16–20 |
| A | None | Q | D | 11–15 |
| B | 1 hour or less | Œ | D | 6–10 |
| 0 | 2 hours | Œ | D | 5 or fewer |
| (| 3 hours | | | TS004001 |
| Œ | 4 hours | 18. H | Iov | v many days of school did you miss |
| Ð | 5 hours | | | month? |
| © | 6 hours or more | Œ | D | None |
| | | Œ | 3) | 1 or 2 days |
| | | Q | D | 3 or 4 days |
| | | Œ | D | 5 to 10 days |
| | | Œ | Đ | More than 10 days |
| | | | | |

MATHEMATICS, SCIENCE, AND READING

HE000712 HE000713

Once or twice a week

21. How often do you use a computer for

- 19. Within the past two years, how many times have you changed schools because you changed where you lived?
 - None
 - **B** 1
 - © 2
 - ① 3 or more

© Once or twice a month

Almost every day

schoolwork?

Never or hardly ever

HE000717

- 20. How often do you discuss things you have studied in school with someone at home?
 - Almost every day
 - Once or twice a week
 - Once or twice a month
 - Never or hardly ever

READING BACKGROUND QUESTIONNAIRE DIRECTIONS

In this section, you will have 5 minutes to answer questions about how you are learning to read or write. Some of the questions are like the following example. Please read these two questions and fill in one oval beneath your answer to each question.

| How often do you talk with a friend about something you have read? | Often (A) | Sometimes <a>B | Never © |
|---|--------------|--------------------|------------|
| How often do you talk with a friend about something you have written? | (A) | (B) | © |

For each of these questions, you should have filled in the oval beneath the answer that is true for you. Fill in only one oval for each question.

If you finish this section before time is called, go back and check your work on this section only. Use your time carefully, and do as much as you can.



READING BACKGROUND QUESTIONNAIRE

This section has 22 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

HE000687

- 1. During the past month, how many books have you read on your own outside of school?
 - None
 - B 1 or 2
 - © 3 or 4
 - 5 or more

TR810201

- 2. What kind of a reader do you think you are?
 - A very good reader
 - A good reader
 - © An average reader
 - A poor reader

UH000112

Questions 3–8. How often do you do each of the following? Fill in one oval on each line.

| | Almost Every Day | Once or Twice a Week | Once or Twice a Month | Never or Hardly Ever | |
|--|------------------------|----------------------------|-----------------------------|----------------------------|----------|
| 3. Read for fun on your own time | A | B | © | (D) | TR810001 |
| 4. Talk with your friends or family about something you have read | (A) | B | © | (D) | TR810002 |
| 5. Take books out of the school library or public library for your own enjoyment | A | B | © | (| TR810003 |
| 6. Read a story or novel | A | B | © | (D) | HE000684 |
| 7. Read a newspaper | A | B | © | (D) | HE000685 |
| 8. Read a magazine | A | B | © | (D) | HE000686 |

W1RB1

49 -

GO ON TO THE NEXT PAGE

UH000113

Questions 9–16. When you have reading assignments in school, how often does your teacher do each of the following? Fill in **one** oval on each line.

| | Almost Every Day | Once or Twice a Week | Once or Twice a Month | Never or Hardly Ever | |
|---|------------------------|----------------------------|-----------------------------|----------------------------|----------|
| 9. Ask you to do a group activity or project about what you have read | A | B | © | • | TR810105 |
| 10. Ask you to read aloud | A | lacksquare | © | (D) | TR810402 |
| 11. Ask you to read silently | A | B | © | (D) | TR810412 |
| 12. Give you time to read books you have chosen yourself | A | $^{\circ}$ | © | (D) | TR810413 |
| 13. Ask you to talk to other students about what you have read | (A) | B | © | (D) | TR810102 |
| 14. Ask you to write something about what you have read | A | B | © | (b) | TR810104 |
| 15. Help you break words into parts | A | B | © | (D) | ID100186 |
| 16. Help you understand new words | A | B | © | (D) | ID100187 |

ID100188

17. Do you and your teacher review your progress in reading by looking at your work together?

- Yes
- B No

ID100189

18. Is there a school or public library available that you can use?

- Yes
- B No

HE000694

Questions 19–22. How often do you use the school library or public library to do each of the following? Fill in **one** oval on each line.

| | Almost Every Day | Once or Twice a Week | Once or Twice a Month | Never or Hardly Ever | |
|--|------------------------|----------------------------|-----------------------------|----------------------------|----------|
| 19. Do research for a school assignment | A | B | | • | HE000695 |
| 20. Borrow books for a school assignment | A | B | © | (D) | HE000696 |
| 21. Use a computer | A | B | © | (D) | ID100190 |
| 22. Have a quiet place to study | A | B | © | | HE000698 |

This section has 5 questions. Mark your answers in your booklet. Fill in only **one** oval for each question.

ID100376

- 1. How hard did you try on this test compared to how hard you tried on most other reading tests or assignments you have taken this year in school?
 - Much harder than on other reading tests or assignments
 - B Harder than on other reading tests or assignments
 - © About as hard as on other reading tests or assignments
 - Not as hard as on other reading tests or assignments

ID100377

- 2. How important was it to you to do well on this reading test?
 - Very important
 - Important
 - © Somewhat important
 - Not very important

HE000781

- 3. This year in school, how often have you been asked to write long answers to questions on tests or assignments that involved reading?
 - At least once a week
 - Once or twice a month
 - © Once or twice this year
 - Never

D100341

Questions 4–5. How strongly do you agree or disagree with the following statements? Fill in **one** oval on each line.

| | Strongly Agree | Agree | Disagree | Strongly Disagree | |
|---|-------------------|-------|----------|----------------------|----------|
| 4. My friends make fun of people who try to do really well in school. | A | B | © | (D) | ID100342 |
| 5. I have friends that I would talk to if I needed help with a school assignment. | A | B | 0 | (D) | ID100343 |

STOP

National Assessment of Educational Progress 2000 Assessment Mathematics, Science, and Reading

Information about National Assessment of Educational Progress

PROJECT MISSION. NAEP is authorized by Congress and directed and funded by the U.S. Department of Education (National Center for Education Statistics) to report on what American students know and can do in key academic subjects. It has produced more than 200 reports in its 30-year history, chronicling trends over time in the performance of 9-, 13-, and 17-year-old and fourth-, eighth-, and twelfth-grade students. The results are reported in the aggregate for large groups; no student or school data are reported. Information is reported by average proficiency; racial/ethnic and gender status; region; type of school; parent's education level; teachers' emphases; and a variety of home and school supports for learning. It is important to note that student participation is voluntary and confidential. No students' names are ever removed from the school.

THE CONTENT OF NAEP. By law, for each subject assessed, the National Assessment Governing Board (NAGB) manages the development of frameworks detailing what students reasonably might be expected to know and do. These frameworks are the "blueprints" for developing tasks that measure the content specified. Schools selected for the 2000 assessment will receive NAEP's frameworks for mathematics, science, and reading. For information on additional framework development, please contact Mary Crovo of the National Assessment Governing Board at 202–357–6941.

EXAMINATION OF SECURE NAEP ITEMS. Within the limits of staff and resources, procedures have been developed that will enable small groups of members of the public to review the NAEP questions that will be administered in 2000. These arrangements must be made in advance of the local administration date(s) so that sufficient materials can be available and interested persons can be notified about the location and time of the examination. Those persons reviewing the assessment may not, however, remove the booklets from the room, copy them, or take notes. These requests may be made to the NAEP data collection staff, or by contacting the National Center for Education Statistics at 202–219–1831.

OBTAINING NAEP QUESTIONS. Most NAEP questions and tasks are not generally released to the public, because these materials are reused in future assessments, and thus must be kept secure if the project is to accurately report trends in academic performance. However, a portion of each assessment is designated for public release and each NAEP report contains a sample of actual test questions. The questions released for public and research use can be obtained from the National Center for Education Statistics, NAEP Released Exercises, 555 New Jersey Avenue, NW, Washington, DC 20208–5653. Also, previously released questions may be viewed on and downloaded from the NCES Web site at http://nces.ed.gov/nationsreportcard.

FOR FURTHER INFORMATION. For prompt field staff support on the above-mentioned matters, or any other concerns, please call 800–283–6237.